Contr. Univ. Michigan Herb. 25: 231–234. 2007.

EUPHORBIA JABLONSKII (EUPHORBIACEAE), A NEW SPECIES FROM BRAZIL

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Abstract. *Euphorbia jablonskii* (Euphorbiaceae) is described and illustrated. This species is known from two collections made on limestone rocks in the Federal District of Brazil. It is best accommodated within subgenus *Agaloma* sect. *Alectoroctonum* and appears to be related to the recently described *Euphorbia estevesii*, which occurs in the adjacent state of Goiás.

Brazil probably possesses the greatest diversity of angiosperm species on earth, and *Euphorbia* L. (Euphorbiaceae) is one of the largest genera worldwide; however, *Euphorbia* is relatively poorly represented in Brazil, and Govaerts et al. (2000) report only 53 of its nearly 2,000 species as native there. This figure contrasts, for example, with 111 species in the continental United States and 240 species in Mexico. Although *Euphorbia* is not particularly diverse in Brazil, about 60% of the species occurring there are endemic, and many phylogenetically important lineages are present. *Euphorbia jablonskii* represents an additional narrowly endemic Brazilian species.

Euphorbia jablonskii V. W. Steinm., sp. nov.—Type: Brazil. Distrito Federal: Brasília, córrego Maranhão, zona do calcáreo, 27 Apr 1963, *J. M. Pires, N. T. Silva & R. Souza 9481* (holotype: UB!). Fig. 1.

Frutex 1–2 m altus, deciduus, latice albo; caules articulati, glabri, teretes, internodiis 1–4 cm longi; folia ternata, petiolis 0.6–1.1 cm longis, glabris, laminis ellipticooblongis vel ovatis, 1.6–3.4 cm longis, 0.9–1.6 mm latis, membranaceis, penninervibus, apice obtusis, mucronatis, basi rotundatis, margo integris; inflorescentia axillaris; pedunculi 3–7 mm longi, puberuli; involucra campanulata vel obconica, 1.6–2.3 mm longa, 2.4–3.9 mm lata, puberula; glandulae 5, oblongae vel ovales, 0.9–1.1 mm longae (radialiter), 1.7–2.3 mm latae (tangentialiter); appendices divisae, segmentis triangularibus vel subulatis, albis; flores staminati ca. 30–40; ovarium subglobosum, puberulum, trilobatum, stylis 3, liberis, 0.9–1.1 mm longis, bipartitis, puberulis; capsula trilobata, 3.9–4.2 mm longa, 4.8–5.1 mm lata, puberula; semina 2.6–2.9 mm longa, 1.3–1.7 mm lata, sine caruncula.

Shrub 1 to 2 m tall, drought-deciduous, latex white. Stems articulate, terete, glabrous, internodes 1–4 cm long, striate upon drying, slightly constricted at the nodes, older branches with reddish bark with a dense wax covering which exfoliates in small flakes. Leaves ternate, stipules represented by broadly triangular glandular thickenings, 0.3–0.4 mm long, 0.4–1.1 mm wide at the base; petioles 0.6–1.1 cm long, glabrous; blades elliptic-oblong to ovate, 1.6–3.4 cm long, 0.9–1.6 cm wide, membranaceous, pinnately veined with 7–9 faint secondary veins, apex of the young leaves acute, with maturity obtuse with a minute mucro 0.2–0.3 mm long, base rounded, margin entire, continuous across the adaxial side of the petiole. Cyathia solitary in the axils or more commonly in leafless, relatively congested axillary clusters up to 1 cm long, these

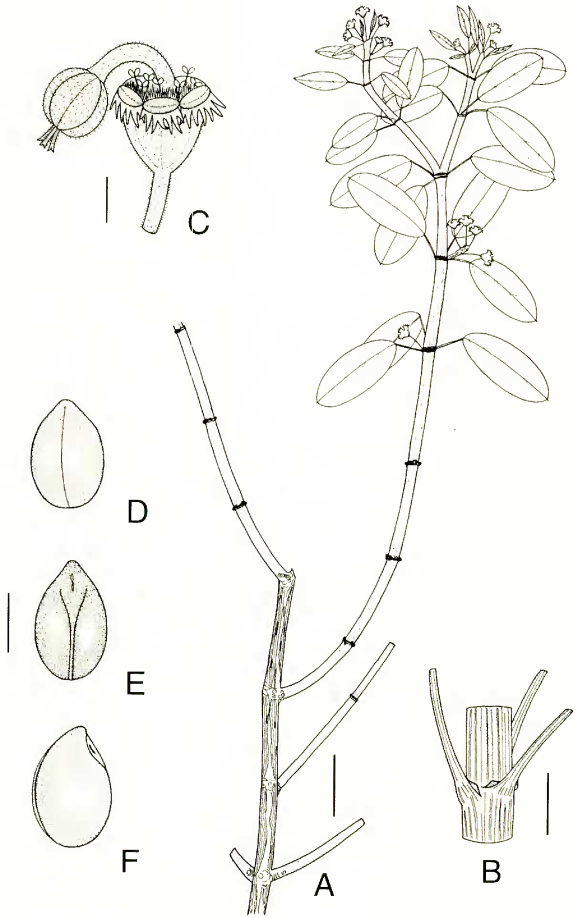

FIG. 1. *Euphorbia jablonskii*. A. Habit. B. Node of young stem, showing stipules. C. Cyathium. D. Seed, adaxial view. E. Seed, abaxial view. F. Seed, lateral view. Scale bars: A, 1.9 cm; B, 3 mm; C, 2mm; D–F, 1.5 mm.

containing up to 9 cyathia; peduncles 3–7 mm long, puberulent with white hairs up to 0.2 mm long. Involucres broadly obconic to campanulate, 1.6–2.3 mm long, 2.4–3.9 mm wide below the glands, outer surface with pubescence like that of the peduncles, inner surface glabrous except for just below the rim; lobes prominent, 0.6–0.9 mm long, 0.8–1.2 mm wide, laciniate margined; glands 5, oblong to oval, 0.9–1.1 mm long (radially), 1.7–2.3 mm wide (tangentially), plicate when dried; appendages 0.4–0.7 mm long (radially), 1.8–2.6 mm wide (tangentially), divided nearly to the base into 7–9 triangular to subulate divisions, white. Staminate flowers ca. 30–40; bracteoles numerous, plumose. Gynophore exserted 2.5–4.7 mm long, puberulent; ovary subglobose, 3-lobed, puberulent; styles 3, bifid, 0.9–1.1 mm long, puberulent. Capsule depressed-globose, strongly 3-lobed, 3.9–4.2 mm long, 4.8–5.1 mm wide, puberulent; columella 2.9–3.2 mm long. Seeds 2.6–2.9 mm long, 1.3–1.7 mm wide, 1.9–2.2 mm from front to back, apex with a nipple-like protuberance, base rounded, chalky white to light tan, smooth to lightly rugose, microreticulate-cellular under high magnification; ecarunculate.

Additional Specimen Examined. **Brazil**. Distrito Federal: Fercal, sobre o rochedo calário, 24 Jun 1965, *D. Sucre & E. P. Heringer 608* (UB).

Euphorbia jablonskii is known from only two collections. The holotype is a leafy plant just beginning to flower (collected in April), and the paratype is a leafless specimen with fruits (collected in June). Both collections were initially misdetermined as *Euphorbia phosphorea* Mart., but *E. phosphorea* is an essentially aphyllous shrub with strongly ribbed stems, and it has little in common with the new species. Instead, the affinities of *E. jablonskii* appear to be with the recently described *E. estevesii* N. F. A. Zimm. & P. J. Braun, which occurs in the adjacent state of Goiás (Zimmerman & Braun 2000). Both taxa are relatively small, drought-deciduous shrubs with articulated stems and whorled leaves; the cyathia are in axillary clusters and bear involucral appendages. Their herbage is glabrous, and pubescence is restricted to the cyathia. Although I have not examined material of *E. estevesii*, the description is sufficiently detailed to permit a good comparison between these two species. The two species are similar in many features, but *E. jablonskii* is distinguished by involucral appendages that are divided into 7–9 triangular to subulate divisions and leaves that are ternate at each node. In contrast, the involucral appendages of *E. estevesii* are entire or slightly undulate, and the leaves are verticillate in two sets of three at each node.

In the broader scheme of *Euphorbia* classification, both species are best accommodated within subgenus *Agaloma* House sect. *Alectoroctonum* (Schltdl.) Baill. As traditionally circumscribed (e.g., Boissier 1862), this section is defined by articulated branches, ternate or verticillate leaves, glanduliform stipules, cyathia in axillary or terminal cymes, involucral appendages present, and minutely pitted, ecaruncluate seeds. Park (1996), in a phylogenetic study based on morphology, found that this section was monophyletic, but results from a molecular analysis (Steinmann & Porter 2002) indicate otherwise, and it appears that this group represents a polyphyletic assemblage of various lineages. Besides *E. estevesii*, there are no other native Brazilian species of *Euphorbia* that could be assigned to sect. *Alectoroctonum*, but there are many species that belong to other sections of subg. *Agaloma*. At this time I am uncertain whether *E. jablonskii* and *E. estevesii* are related to species treated in sect. *Alectoroctonum* that occur outside Brazil, or whether they are derived from some other Brazilian members of subg. *Agaloma* and that their morphological similarity to members of sect. *Alectoroctonum* is a result of convergence.

Euphorbia jablonskii was collected on limestone rocks. Presumably the surrounding vegetation is xerophytic forest, but this remains to be confirmed. It is worth noting that *E. estevesii* is also reported from limestone outcrops. Because *E. jablonskii* has been collected only twice, over 40 years ago, in the now densely populated Federal District of Brazil, I believe it is at risk and measures should be considered for its conservation.

The specific epithet honors Eugene Jablonski (1892–1975), who began his studies of Euphorbiaceae under the tutelage of the renowned euphorbologist Ferdinad Pax. His first publications date from the early 1900's; after a long hiatus from botany he resumed research on the family in the 1960's and 1970's. Among his most important contributions are treatments of Euphorbiaceae for the Guayana Highland (1965, 1967) and his "Catalogus Euphorbiarum" (1973, 1974).

ACKNOWLEDGMENTS

I thank Rogelio Cárdenas for the drawing, the herbarium of the Universidade de Brasília (UB) for allowing access to their collections, Rancho Santa Ana Botanic Garden (RSA) for assisting with loans and use of their facilities, and Paul Berry for carefully reviewing the manuscript. Economic support was provided by a grant from the Comisión Nacional para el Conocimiento y Uso de la Biodiversidad to the Instituto de Ecología, A.C. (account number 902-03).

LITERATURE CITED

Boissier, E. 1862. Euphorbieae. In *Prodromus systematis naturalis regni vegetabilis*, ed. A. de Candolle, 15(2): 3–188. Paris: Victor Masson & Fils.

Govaerts, R., D. G. Frodin, and A. Radcliffe-Smith. 2000. *World checklist and bibliography of the Euphorbiaceae (with Pandaceae)*. World Checklists and Bibliographies 4. Kew: Royal Botanic Gardens. 1621 pp.

Jablonski, E. 1965. Euphorbiaceae. In "The botany of the Guayana Highland, VI," ed. B. Maguire. Mem. N.Y. Bot. Gard. 12: 150–178.

———. 1967. Euphorbiaceae. In "The botany of the Guayana Highland, VII," ed. B. Maguire. Mem. N.Y. Bot. Gard. 17: 80–190.

———. 1973, 1974. Catalogus Euphorbiarum. Phytologia 25: 329–349, 351–367, 369–397; 27: 7–40; 28: 121–187.

Park, K. R. 1996. Phylogeny of New World subtribe Euphorbiinae (Euphorbiaceae). Korean J. Pl. Taxon. 26: 235–256.

Steinmann, V. W., and J. M. Porter. 2002. Phylogenetic relationships in Euphorbieae (Euphorbiaceae) based on ITS and *ndh*F sequence data. Ann. Missouri Bot. Gard. 89: 453–490.

Zimmermann, N. F. A., and P. J. Braun. 2000. A new semisucculent species of *Euphorbia* subgenus *Agaloma* from Goiás, Brazil: *Euphorbia estevesii*. Cact. Succ. Journ. (U.S.) 72: 318–324.